

PROCEEDINGS
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DESCRIPTION OF A NEW SOLITARY SPADEFOOT
(*SCAPHIOPUS HURTERII*) FROM TEXAS, WITH
OTHER HERPETOLOGICAL NOTES.

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Cope and other herpetological writers have included the eastern half of the State of Texas in the range of the Solitary Spadefoot (*Scaphiopus holbrookii* Harlan), but have cited no definite localities for specimens.

In June, 1904, the present writer captured a spadefoot of this type near Refugio, Refugio County, and recorded it as a "typical example of *S. holbrookii*," but later was uncertain as to whether he was justified in inserting the word *typical*. In as much as this specimen possessed the conspicuous parotoid glands, distinct tympanum, and in a way, general appearance of the eastern species, in these particulars differing from *Scaphiopus couchii* B. and G. and *S. hammondi* Baird of the Sonoran and Central Zoological districts, the reference was, in a measure, correct. On the other hand it differed from *holbrookii* in many particulars, being characterized by a peculiarly narrow and compact form, for a *Scaphiopus*, and possessing a remarkably short and blunt head.

On the night of April 13, 1910, while collecting toads in and around temporary breeding pools on an elm flat about $3\frac{1}{2}$ miles east of the city of Waco, I captured a second example of the same type. By the dim light of a lantern I was at first under the impression—on account of its greenish coloration, tubercular upper surfaces and high round parotoids—that I had captured a large *Bufo punctatus* B. and G., and did not realize the importance of my find until after I had reached the house on my return.

The temporary pools on the flats were swarming with common toads, but the spadefoot, a single *Lithodytes latrans* Cope and a large smooth-skinned *Hyla* were found hopping around among dead leaves a yard or more from the water. Before reaching these pools I could distinguish the voices of the common toad, the narrow-mouthed toad (*Engystoma texense* Girard) and a spadefoot. If other specimens of the latter were present they concealed themselves so effectually that I was unable to discover them.

This type of spadefoot must be exceedingly rare in Texas. I have collected and examined hundreds of *Scaphiopus* in several sections of the State, but with the exception of the two above mentioned, all have been specimens of *S. couchii*.

I am fully satisfied after making careful comparisons between my specimens and examples of *Scaphiopus holbrookii* from North Carolina that the Texan form is a distinct species. It requires comparison only with the eastern spadefoot, from which it may be distinguished by its more compact form, narrow head, blunt muzzle, unusually high parotoids, smaller palmar tubercles and shorter hind limbs. The sides, buttocks, tibia and posterior portion of the abdomen are covered with tubercles instead of being almost perfectly smooth. The tubercles on the upper surfaces are more uniform in size.

I dedicate this interesting species to Mr. Julius Hurter, the well-known herpetologist of St. Louis, Missouri, in recognition of his generosity and encouragement to me in my herpetological studies.

***Scaphiopus hurterii* sp. nov.**

Plate II, figures 3 and 4.

Type from Waco, Texas (3½ miles east). No. 4179, Baylor University Collection. Adult male. April 13, 1910. Collected by J. K. Strecker, Jr.

Habitat.—Eastern half of Texas.

Material.—One specimen from Refugio, Texas, in addition to the type.

Description.—Size medium. Length of head and body, 67 mm. Head short, length about equal to width. (In *holbrookii* the head at angle of jaws is much wider than long.) Snout heavy and blunt, not extending beyond the mouth. Parotoids nearly round, higher and even more conspicuous than in the eastern species. Tympanum distinct but rather smaller than in *holbrookii*. (In type hardly more than half the diameter of the parotoid.) Crown distinctly rugose. No black granules in space between and in front of the eyes. Upper surfaces with small, closely set



Fig. 1.

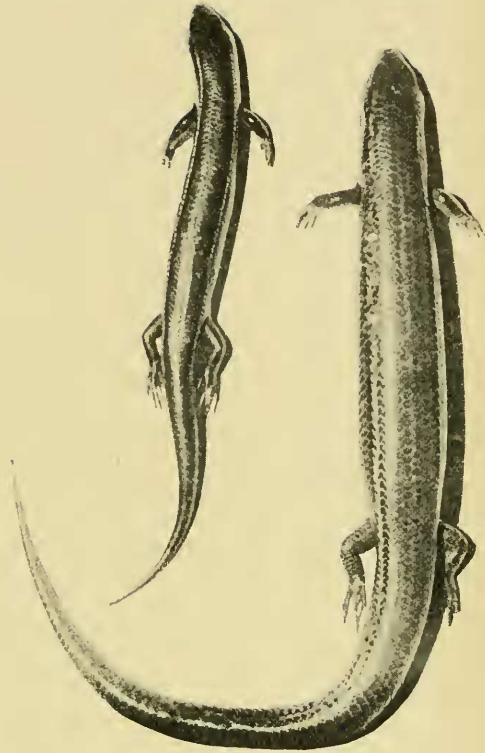


Fig. 2.

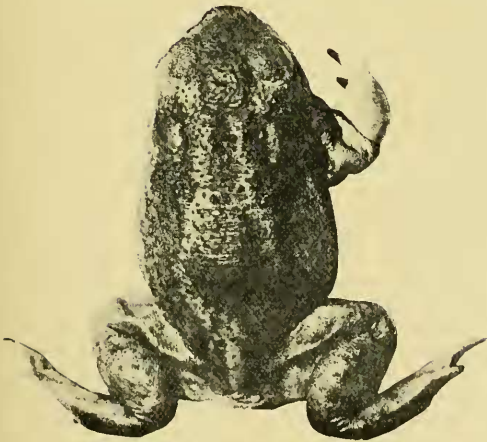


Fig. 3.

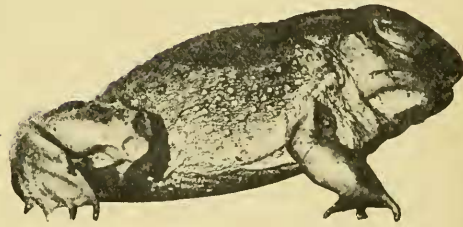


Fig. 4.

Fig. 1. *Engystoma arcolata* Strecker.

Fig. 2. *Eumeces pachyurus* Cope.

Figs. 3 and 4. *Scaphiopus hurterii* Strecker, new species.

tubercles very uniform in size and distribution. Many tubercles on sides, buttocks and posterior portion of the abdomen. Many pustules on upper surface of tibia. Glands on thorax present, conspicuous. Enlargements resembling glands on inferior surface of femur (present in both specimens). Spade-like process of foot narrowly margined with black. Palmar tubercles rather small. Fingers slender. Tibia about equal to that of *S. holbrookii* but femur and foot much shorter.

Color above, pale greenish, with a pale yellowish line from each orbit; these converge again on the coccyx. Upper surface of head and area between the light lines, dark plumbeous. Parotoids olive. Sides of head and under surfaces yellowish-white.

The Refugio specimen is slightly smaller. (Length 63 mm.) Coloration in life darker. Greenish above, light lines inconspicuous. In form and other important characteristics resembling the type.

Engystoma areolata Strecker.*

Plate II, figure 1.

The specimen illustrated is a cotype (Baylor University Collection No. 4086) from Victoria County, Texas. The figure, which is from a worked over photograph, gives a very fair idea of the general appearance of this rough-skinned, brightly marked little toad.

Hyla versicolor chrysoseleis Cope.

Hyla femoralis chrysoseleis Cope, Bull. U. S. Nat'l Mus., No. 17, 1880, p. 29.

Cope's brief description of this variety is as follows: "*Hyla femoralis* Daudin. A specimen larger than the largest individuals I have previously seen; differs also in the greater extent of the palmation of the fingers, and in the coloration of the concealed surface of the femur. In eastern specimens the posterior surface of the femur is brown, with rather small yellow spots; in this form it is yellow, with a blackish coarse reticulation, which only extends to the lower surface on the proximal half of the thigh. The sides have a double row of small black spots, which enclose a yellow band. This is probably a subspecies and may be distinguished by the name of *chrysoseleis*. One specimen as large as a large *Hyla versicolor* was taken by Mr. Boll near Dallas."

A number of tree-frogs obtained by Combs at Hot Springs, Arkansas, were identified as *Hyla chrysoseleis* by Dr. Stejneger. In the latter's letter to Mr. C. S. Brimley, who sent him the specimens, attention was called to the fact that *chrysoseleis* is related to *versicolor* and not to *femoralis*. Several *Hylas* collected at Waco, Texas, a year or two later agreed in all important characters with those from Hot Springs. Miss Dickerson, in her "Frog Book," ignores this subspecies but records *Hyla femoralis* from Texas on the authority of Cope!

It seems strange to me that Cope should refer this form to *femoralis*, even as a variety. It clearly indicates to my mind that the type must have been a smooth-skinned animal, in this respect resembling Daudin's species.

* Proc. Biol. Soc. Wash., 1909, XXII : 118.

Hyla versicolor chrysoseclis is certainly worthy of a subspecific name, although the one given by its author is hardly fitting. The reticulation of the femur he describes is a common character of western examples of *versicolor*. It agrees with *femorialis* in having a smooth skin but in no other important character. *Hyla femoralis* is a smaller frog, lacks the light spot under the eye so characteristic of *versicolor* and differs in the extent of the palmation of the fingers. It also has a dark line through the eye and ear not present in *versicolor*.

Chrysoseclis differs from *versicolor* in having the skin of the upper surfaces almost perfectly smooth, only a few tubercles being present along the margin of the snout and on the eyelids. The light spot under the eye, in living specimens, is invariably yellow. The color pattern is much the same as in the typical subspecies.

This spring I found this tree-frog breeding in small rock-bound pools in a gravel pit. The tadpoles were light yellow. Specimens collected April 21st had the hind-limbs well developed.

Eumeces pachyurus Cope.

Plate II, figure 2.

This skink was described by Cope* from a single example collected by Jacob Boll near Dallas, Texas. According to the author, the specimen had been temporarily mislaid and he was unable to give a figure of it. The same statement is repeated in his monumental posthumous work on the Crocodylians, Lizards and Snakes published by the National Museum in 1898. No other specimen has since been placed on record.

On April 6, 1910, I stirred a small dark brown lizard with two light lateral lines on each side, from among some drift material which had accumulated at the base of an *Opuntia leptocaulis*, in a wooded pasture about 3 miles east of the city of Waco. It was very agile in its movements but I succeeded in capturing it before it could enter its burrow under the roots of the *Opuntia*. As it was the first *Eumeces* of its type that I had ever seen, I redoubled my efforts and a few minutes later brought another specimen to light from under a mass of dead leaves only about a yard away. This one also attempted to enter a burrow at the base of an *Opuntia*, but its movements were much slower than those of the other example, its weak limbs appearing to be of little service in carrying forward its long body and heavy, thick tail. This specimen was much larger than the first one and was apparently a well-grown adult. The color was much lighter but the color pattern was identical.

The soil of the pasture is sandy and the lizards were captured on the side of a draw which carries the water from the truck farm above down to a small slough nearly an eighth of a mile below. On both sides of the draw are thick growths of scrubby trees—*Quercus breviloba*, *Ulmus alata*, *Gleditsia triacanthos* and *Juniper sabinoides*. *Opuntias*, both *leptocaulis* and the common heavy-stemmed variety, grow around the bases of these trees. Specimens of *Leiolepisma laterale* Say and *Haldea striatula* Linn. were also found under the roots of these plants, but although I spent five days in the vicinity, I was unable to find any more examples of the skink.

* Bull. U. S. Nat'l Mus., No. 17, 1880, p. 19, 39.

Following are descriptions of my two specimens which I refer to Cope's lost *Eumeces pachyurus*.

(1) No. 4112, adult. Length of head and body, 67 mm.; vent to tip of tail, 88 mm.; from ear to muzzle, 12 mm.; of hind limb, 13 mm.; of fore limb, 16 mm. Tail long and thick, slightly depressed at base, not perfectly cylindrical for first 12 mm. of length; 24 mm. in circumference for first 25 mm. of length. (Measurement around body at insertion of fore limbs only 30 mm.)

No postnasal plate. Anterior loreal elevated, as high as long, and reaching the transverse interfrontonasal plate, as in the type. Other headplates as in original description of the species. Color above, light brown. Head and upper labials olive. Inconspicuous dark borders to labials. Underparts white (pure white on throat and chin—bluish white posteriorly). Two narrow light lines on each side; white in color and with the enclosed area between each pair black. A narrow black border above upper and below lower light stripes. The dark area between the lateral lines occupying one whole and two half scales. Six scales between the two upper light lines which extend to within 30 mm. of the end of the tail. A few scattered dorsal scales are black spotted (27 in 40 mm. of length). Limbs smaller than in examples of *Eumeces brevilineatus* Cope and *E. tetragrammus* Baird of approximately the same size. Claws noticeably smaller and weaker than in an example of *tetragrammus* only 60 mm. in length (head and body). Rows of scales, 26. No dark borders to any of the dorsal scales.

(2) No. 4113, juv. Body heavier than in examples of *Leiolepisma laterale* of medium size but length about equal. Tail short, thick at base, length about equal to head and body. Color above, rich brown, tinged with bronze in the living animal. Each dorsal scale with a dusky spot at base. Upper surfaces of limbs dark brown. Lateral light lines yellow, enclosed area coal black. Underparts bluish, excepting on chin and throat, which are white. A heavy black line above upper light stripe; a dusky line along lower border of lower light stripe. The immaturity of this specimen will account for its rich dark coloration and the difference in the proportions of the tail. Cope states that in the young *E. tetragrammus* the sides and limbs are scarcely darker than the back, which is certainly not the case in the young of the present species.

For comparison with these specimens I had examples of the following species of skinks from Texas: *Eumeces quinquelineatus* Linn., *E. obsoletus* B. & G., *E. guttulosus* Hallowell, *E. multicirgatus* Hallowell, *E. anthracinus* Baird, *E. brevilineatus* Cope and *E. tetragrammus* Baird.

Alligator mississippiensis Daudin.

The Texan range of the alligator is yearly becoming more restricted. In an attempt to outline its present distribution I have been greatly handicapped by a lack of definite locality records but I occasionally come into possession of some data of real value. Recently, Mr. Turner Hubby and two other gentlemen killed a nine-foot specimen in a marsh along the Trinity River, about three miles south of Dallas. In 1909 a German boy

caught a two-foot example on the Bosque River, about five miles north of Waco. In February of this year a specimen $3\frac{1}{2}$ feet in length was caught on a hook on a "trot" line in the Brazos River not over a mile south of Waco.

The Waco specimens may possibly have escaped from captivity but Mr. Hubby informs me that the Dallas specimen had every appearance of being an old residenter and was killed in a form among drift material which it had probably occupied for some time.

Zamenis constrictor flaviventris Say.

The western variety of the blue racer or black snake is very variable in color. A specimen 612 mm. in length, collected near Waco by Dr. J. L. Kesler, represents the transition stage between the spotted (young) phase and the plain colored adult and is worthy of description.

Color above, olive green, darkest on dorsal region. Head brownish-olive, unspotted. Iris yellow. Upper surface of body with black spots on the scales, these disappearing on the posterior sixth of its length. These spots form broken rhomboids along the dorsal line and are edged with chestnut. Only about two out of every four scales show the black coloration. On separating the scales on the lateral portion of the body, the skin shows black underneath. Along the lateral line (rather, point of division) every other scale is marked with a black fleck. The chin, upper and lower labials and anteorbital scales are pure white. Underparts light yellow, changing to white in the anal region and on the tail. From two to four blackish spots, surrounded by pink, on each gastrostege. Upper surface of tail brownish-olive, unspotted. Superior labials 7-7. Ventrals 175. This specimen combines the characters of the eastern and western subspecies. In another specimen 450 mm. in length the dorsal blotches were bright red.

Coluber emoryi B. & G.

Two examples of this species were recently captured near Waco and are now in the Baylor University Collection. The first, an adult 940 mm. in total length, was sent in alive and was the most pugnacious snake that I have ever handled. When first received it was in splendid condition, indicating that it had taken food quite recently. About the end of the third week of its captivity it became restless and an examination disclosed the fact that it was preparing to shed its skin. Thinking to hasten the operation, I offered it eggs, mice, toads and lizards but it absolutely refused to accept anything in the way of food. One morning about a week later I found it dead in its cage, with the skin of the sides loosened in patches and the new skin underneath only partially formed.

The second example was a young female about 400 mm. in length. Both were captured on a prairie farm some five or six miles from the city. Our common *Coluber* (*C. obsoletus confinis* B. & G., according to A. E. Brown or *C. spiloides* D. & B. according to Cope) inhabits timbered districts and is a better dispositioned snake.

***Terrapene carolina triunguis* (Agassiz).**

This box tortoise inhabits the eastern half of Texas, but is by no means common. Examples have been recorded from Colmesneil, Tyler County (C. S. Brimley), Demings Bridge, Matagorda County (S. W. Garman), Gainesville, Cooke County (F. W. Cragin), and San Antonio, Bexar County (H. C. Yarrow). Last October Prof. J. L. Kesler found a specimen in Gurley's bottom, two miles south of Waco. It was concealed in a patch of tall weeds and was discovered only by accident. Since its capture it has been confined in a small enclosure. It spent the winter in a shallow cavity in the hard ground, under cover of a mass of dry moss and weeds.

It is an adult. The shell is unsymmetrical, the plates on the right side being much wider and longer than those on the left. Carapace above, olive, without traces of the usual obscure markings of this subspecies. Keel distinct. Neural plates indistinctly margined with black. A black spot at base of each marginal. Plastron light yellow, the plates margined with black. Top of head light chocolate. Iris orange red. Upper jaw, chin and throat, light yellow. A few scattered scales on throat orange red. Upper surfaces of limbs light chocolate. Inner surfaces of fore-limbs orange red. Hind foot with three toes.

Waco is well within the range of this animal, and it seems strange that it should have been so long overlooked.

***Aspidonectes emoryi* Agassiz.**

"Though this species is closely related to the southeastern soft-shelled turtle (*T. ferox*) there are no tubercles on the front margin of the carapace"—Ditmars, "The Reptile Book," N. Y., 1907, p. 78.

I beg to differ from Mr. Ditmars and others who have made the same distinction. I have adult examples of *A. emoryi* which have from 14 to 18 conical tubercles on the front margin of the carapace. Dr. Siebenrock referred a specimen of this type (labeled by me *A. emoryi*) to *A. spinifer* but afterward changed his opinion and recorded it under its correct name. I have young examples 4 inches in length in which the tubercles are already in process of formation and are represented by very small round knobs.

In *Aspidonectes ferox* the carapace is olive or brownish olive with dull blotches or black rings; in *emoryi* it is olive with numerous white dots. In the former species young specimens and adults differ in coloration; in the latter they are similar. *A. ferox* is much the larger turtle. Both species occur in some localities in the eastern half of Texas (Brownsville [Yarrow], Bullhide Creek, McLennan County [Baylor Univ. Coll.]).

